

Showing 1–50 of 501 results for all: Romania

Search v0.5.6 released 2020-02-24

Feedback?

Romania

All fields

Search

☒ Show abstracts ☐ Hide abstracts

Advanced Search

50 results per page. Sort results by Announcement date (newest first) Go

1 2 3 4 5 ...

Next

1. [arXiv:2212.02407](#) [pdf, other] econ.EM

Debiased Machine Learning Inequality of Opportunity in Europe

Authors: [Joël Terschuur](#)

Abstract: ...IOP in two populations and a group test to check joint significance of a group of circumstances. We use the debiased estimators to measure IOP in 29 European countries. **Romania** and Bulgaria are the countries with highest IOP. Southern countries tend to have high levels of IOP while Nordic countries have low IOP. Debiased estimators are more robust to the cho... [▼ More](#)

Submitted 6 December, 2022; v1 submitted 5 December, 2022; **originally announced** December 2022.

2. [arXiv:2211.16205](#) [pdf] physics.soc-ph quant-ph

Shape it Better than Skip it: Mapping the Territory of Quantum Computing and its Transformative Potential

Authors: [Imed Boughzala](#), [Nesrine Ben Yahia](#), [Narjès Bellamine Ben Saoud](#), [Wissem Eljaoued](#)

Abstract: Quantum Computing (QC) is an emerging and fast-growing research field that combines computer science with quantum mechanics such as quantum superposition and quantum entanglement. In order to contribute to a clarification of this field, the objective of this paper is twofold. Firstly, it aims to map the territory in which most relevant QC researches, scientific communities and related domains are... [▼ More](#)

Submitted 24 October, 2022; **originally announced** November 2022.

Journal ref: ISD 2022: The 30th International Conference on Information Systems Development, Aug 2022, Cluj-Napoca, **Romania**

3. [arXiv:2209.15075](#) [pdf] cs.SE doi [10.1007/978-3-031-16684-6_7](#)

What UAE Software Students Think about Software Testing: A Replicated Study

Authors: [Luiz Fernando Capretz](#), [Saad Harous](#), [Ali Bou Nassif](#)

Abstract: Software testing is vital to improve software quality. However, software tester role is stigmatized, partly due to misperception and partly due to the treatment of the testing process within the software industry. The present study analyses this situation aiming to explore what might inhibit an individual from taking up a software testing career. In order to investigate this issue, we surveyed 132... [▼ More](#)

Submitted 29 September, 2022; **originally announced** September 2022.

Comments: 9 pages. arXiv admin note: text overlap with arXiv:2205.07781, arXiv:2007.12632

MSC Class: Software Career; Human Dimension of Software Testing; Software Testing; Human Factors in Software Engineering

Journal ref: 9th International Conference on Computers Communications and Control (ICCCC 2022), Oradea, **Romania**

4. [arXiv:2209.09208](#) [cs.LO](#) [cs.PL](#) [cs.SE](#) [doi](#) [10.4204/EPTCS.369](#)

Proceedings of the Sixth Working Formal Methods Symposium

Authors: [Vlad Rusu](#)

Abstract: It is our pleasure to present the papers of the sixth Working Formal Methods Symposium (FROM 2022) held at the "Al. I. Cuza" university of Iasi, [Romania](#) on September 19-20, 2022. FROM aims to bring together researchers and practitioners who work on formal methods by contributing new theoretical results, methods, techniques, and frameworks, and/or mak... [▼ More](#)

Submitted 19 September, 2022; originally announced September 2022.

Journal ref: EPTCS 369, 2022

5. [arXiv:2209.07781](#) [[pdf](#)] [physics.geo-ph](#)

Seismic hazard assessment in Menton, France: Topographical site effect zoning considering a semi-empirical approach and a Machine Learning scheme

Authors: [Mathieu Allimant](#), [Etienne Bertrand](#), [Nathalie Glinsky](#), [Celine Bourdeau](#)

Abstract: The presence of topography influences the seismic ground motion and may result in strong amplifications, generally at the top of hills and reliefs. The increasing urbanization of hills requires an accurate estimation of these effects even in areas of moderate seismicity. The simplified coefficients provided by the Eurocodes8 do not depend on the frequency and underestimate the amplification in man... [▼ More](#)

Submitted 16 September, 2022; originally announced September 2022.

Journal ref: Arion, Alexandra Scupin, Alexandru Țig{\u a}nescu, Sep 2022, Bucharest, [Romania](#). pp.(4775-4784)

6. [arXiv:2208.10140](#) [[pdf](#), [other](#)] [quant-ph](#) [physics.optics](#)

Construction and characterization of a Sagnac-based entangled-photon source

Authors: [Vasile-Laurențiu Dosan](#), [Andrei Nazîru](#), [Mona Mihăilescu](#), [Radu Ionicioiu](#)

Abstract: ..., our source is highly competitive, with state-of-the-art performance. To the best of our knowledge, this is the first source of entangled-photons designed and build in [Romania](#) and as such, represents an important step for the development of quantum technologies in our country. We envisage that our results will stimulate the progress of quantum technologies... [▼ More](#)

Submitted 22 August, 2022; originally announced August 2022.

7. [arXiv:2207.03721](#) [[pdf](#), [ps](#), [other](#)] [quant-ph](#)

Maximally Entangled Two-Qutrit Quantum Information States and De Gua's Theorem for Tetrahedron

Authors: [Oktay K Pashaev](#)

Abstract: Geometric relations between separable and entangled two-qubit and two-qutrit quantum information states are studied. To characterize entanglement of two qubit states, we establish a relation between reduced density matrix and the concurrence. For the rebit states, the geometrical meaning of concurrence as double area of a parallelogram is found and for generic qubit states it is expressed by deter... [▼ More](#)

Submitted 8 July, 2022; originally announced July 2022.

Comments: 12 pages, online talk in III. International Conference on Mathematics and its Applications in Science and Engineering (ICMASE 2022), Technical University of Civil Engineering of Bucharest ([Romania](#)) 4-7 July 2022

8. [arXiv:2207.03709](#) [[pdf](#), [ps](#), [other](#)] [nlin.SI](#) [hep-th](#)

Hirota Bilinear Method and Relativistic Dissipative Soliton Solutions in Nonlinear Spinor Equations

Authors: [Oktay K Pashaev](#)

Abstract: A new relativistic integrable nonlinear model for real, Majorana type spinor fields in 1+1 dimensions, gauge equivalent to Papanicolau spin model, defined on the one sheet hyperboloid is introduced. By using the double numbers, the model is represented as hyperbolic complex valued relativistic massive Thirring type model. By Hirota's bilinear method, an exact one and two dissipative soliton soluti... [▼ More](#)

Submitted 8 July, 2022; originally announced July 2022.

Comments: 12 pages, talk in III. International Conference on Mathematics and its Applications in Science and Engineering (ICMASE 2022), Technical University of Civil Engineering of Bucharest ([Romania](#)) 4-7 July 2022

9. [arXiv:2206.10221](#) [[pdf](#), [other](#)] [q-bio.QM](#)

Stability versus Meta-stability in a Skin Microbiome Model

Authors: [Eléa Thibault Greugny](#), [Georgios N Stamatas](#), [François Fages](#)

Abstract: The skin microbiome plays an important role in the maintenance of a healthy skin. It is an ecosystem, composed of several species, competing for resources and interacting with the skin cells. Imbalance in the cutaneous microbiome, also called dysbiosis, has been correlated with several skin conditions, including acne and atopic dermatitis. Generally, dysbiosis is linked to colonization of the skin... [▼ More](#)

Submitted 21 June, 2022; originally announced June 2022.

Journal ref: Int. Conf. Computational Methods in Systems Biology, Sep 2022, Bucarest, **Romania**

10. [arXiv:2206.09624](#) [[pdf](#), [other](#)] [q-bio.MN](#) [q-bio.QM](#)

Algebraic Biochemistry: a Framework for Analog Online Computation in Cells

Authors: [Mathieu Hemery](#), [François Fages](#)

Abstract: The Turing completeness of continuous chemical reaction networks (CRNs) states that any computable real function can be computed by a continuous CRN on a finite set of molecular species, possibly restricted to elementary reactions, i.e. with at most two reactants and mass action law kinetics. In this paper, we introduce a notion of online analog computation for the CRNs that stabilize the concentr... [▼ More](#)

Submitted 20 June, 2022; originally announced June 2022.

Journal ref: Proc. Int. Conf. Computational Methods for Systems Biology CMSB'22, Sep 2022, Bucarest, **Romania**

11. [arXiv:2205.08471](#) [[pdf](#)] [eess.IV](#)

Assimilation of SAR-derived Flood Observations for Improving Fluvial Flood Forecast

Authors: [Thanh Huy Nguyen](#), [Sophie Ricci](#), [Andrea Piacentini](#), [Christophe Fatras](#), [Peter Kettig](#), [Gwendoline Blanchet](#), [Santiago Pena Luque](#), [Simon Baillarin](#)

Abstract: As the severity and occurrence of flood events tend to intensify with climate change, the need for flood forecasting capability increases. In this regard, the Flood Detection, Alert and rapid Mapping (FloodDAM) project, funded by Space for Climate Observatory initiatives, was set out to develop pre-operational tools dedicated to enabling quick responses in flood-prone areas, and to improve the rea... [▼ More](#)

Submitted 28 December, 2022; v1 submitted 17 May, 2022; originally announced May 2022.

Comments: 10 pages, 4 figures. Submitted to the 14th International Conference on Hydroinformatics HIC 2022 Water INFLUENCE, 4-8 July 2022, Bucharest, **Romania**

12. [arXiv:2204.03052](#) [[pdf](#), [other](#)] [math.DG](#) [doi](#) [10.1109/SACI51354.2021.9465545](#)

Three isometrically equivalent models of the Finsler-Poincaré disk

Authors: [Ágnes Mester](#), [Alexandru Kristály](#)

Abstract: We present the isometry between the 2-dimensional Funk model and the Finsler-Poincaré disk. Then, we introduce the Finslerian Poincaré upper half plane model, which turns out to be also isometrically equivalent to the previous models. As application, we state the gapless character of the first eigenvalue for the aforementioned three spaces.

Submitted 6 April, 2022; originally announced April 2022.

Comments: IEEE 15th International Symposium on Applied Computational Intelligence and Informatics, Timisoara, **Romania**

MSC Class: 53C60

Journal ref: 2021 IEEE 15th International Symposium on Applied Computational Intelligence and Informatics (SACI), pages 403-408, 2021

13. [arXiv:2203.00407](#) [[pdf](#), [other](#)] [cs.LG](#) [q-bio.PE](#) [q-bio.QM](#)

A modified SIRD model for Covid19 spread prediction using ensemble neural networks

Authors: [Marian Petrica](#), [Ionel Popescu](#)

Abstract: In this paper, we propose an analysis of Covid19 evolution and prediction on **Romania** combined with the mathematical model of SIRD, an extension of the classical model SIR, which includes the deceased as a separate category. The reason is that, because we can not fully trust the reported numbers of infected or recovered people, we base our analysis on the mor... [▼ More](#)

Submitted 7 September, 2022; v1 submitted 28 February, 2022; originally announced March 2022.

Comments: arXiv admin note: text overlap with arXiv:2007.13494

14. [arXiv:2201.09878](#) [[pdf](#), [other](#)] [econ.GN](#) [stat.AP](#)

Has EU accession boosted patents performance in the EU-13? -- A critical evaluation using causal impact analysis with Bayesian structural time-series models

Authors: [Agnieszka Kleszcz](#), [Krzysztof Rusek](#)

Abstract: ...impact using a Bayesian structural time-series model (proposed by Google) point towards a conclusion that joining the EU has had a significant impact on patents performance in **Romania**, Estonia, Poland, Czech Republic, Croatia and Lithuania, although in the latter two countries the impact was negative. For the rest of the EU-13 countries there is no significa... [▼ More](#)

Submitted 20 January, 2022; originally announced January 2022.

15. [arXiv:2201.08171](#) [[pdf](#), [other](#)] [stat.AP](#) [stat.ME](#)

Use of Simulation Models for the Development of a Statistical Production Framework for Mobile Network Data with the simutils Package

Authors: [B. Oancea](#), [D. Salgado](#), [S. Barragan](#), [M. Necula](#)

Abstract: We propose to use agent-based simulation models for the development of statistical methods in Official Statistics, especially in relation with the new digital data sources. We present a mobile network data simulator which is managed through the simutils R package which provides geospatial representations of the simulated data. While the synthetic data are produced by an external tool, our simutils... [▽ More](#)

Submitted 20 January, 2022; **originally announced** January 2022.

Comments: 17 pages, 11 figures, presented at the Conference Use of R in Official Statistics 2021, 24-26 November 2021, Bucharest ([Romania](#))

MSC Class: 62P25 ACM Class: I.6.5; G.3

16. [arXiv:2112.13938](#) [[pdf](#), [ps](#), [other](#)] [gr-qc](#) [hep-ph](#) [quant-ph](#)

Generalised Uncertainty Relations and the Problem of Dark Energy

Authors: [Matthew J. Lake](#)

Abstract: We outline a new model in which generalised uncertainty relations, that govern the behaviour of microscopic world, and dark energy, that determines the large-scale evolution of the Universe, are intrinsically linked via the quantum properties of space-time. In this approach the background is treated as a genuinely quantum object, with an associated state vector, and additional fluctuations of the... [▽ More](#)

Submitted 4 July, 2022; **v1** submitted 27 December, 2021; **originally announced** December 2021.

Comments: 6 pages, no figures. Published version. Contribution to the proceedings of the Viewpoints in Astronomy, Astrophysics, Space and Planetary Sciences conference, Cluj-Napoca, [Romania](#), October 2021

Journal ref: Romanian Astron. J., Vol 32, No. 1, p. 3-14, Bucharest, 2022

17. [arXiv:2112.00628](#) [[pdf](#), [other](#)] [physics.soc-ph](#)

Wealth distribution in villages. Transition from socialism to capitalism in view of exhaustive wealth data and a master equation approach

Authors: [István Gere](#), [Szabolcs Kelemen](#), [Tamás S. Biró](#), [Zoltán Néda](#)

Abstract: Socio-economic inequalities derived from an exhaustive wealth distribution is studied in a closed geographical region from Transylvania ([Romania](#)). Exhaustive wealth data is computed from the agricultural records of the Sancriau commune for three different economic situations. The gathered data is spanning two different periods from the communist economy and... [▽ More](#)

Submitted 1 December, 2021; **originally announced** December 2021.

Comments: 17 pages, 6 figures, 7 Tables, Latex

18. [arXiv:2110.14590](#) [[pdf](#), [other](#)] [cs.CV](#) [cs.AI](#) [cs.LG](#) [doi](#) [10.1007/978-3-030-88304-1_20](#)

TMBuD: A dataset for urban scene building detection

Authors: [Orhei Ciprian](#), [Vert Silviu](#), [Mocofan Muguras](#), [Vasiu Radu](#)

Abstract: ...street view perspectives of buildings from urban scenarios, which allows for evaluating complex algorithms. The dataset features 160 images of buildings from Timisoara, [Romania](#), with a resolution of 768 x 1024 pixels each. [▽ More](#)

Submitted 27 October, 2021; **originally announced** October 2021.

19. [arXiv:2107.05684](#) [[pdf](#), [other](#)] [cs.CL](#) [cs.IR](#)

Accenture at CheckThat! 2021: Interesting claim identification and ranking with contextually sensitive lexical training data augmentation

Authors: [Evan Williams](#), [Paul Rodrigues](#), [Sieu Tran](#)

Abstract: This paper discusses the approach used by the Accenture Team for CLEF2021 CheckThat! Lab, Task 1, to identify whether a claim made in social media would be interesting to a wide audience and should be fact-checked. Twitter training and test data were provided in English, Arabic, Spanish, Turkish, and Bulgarian. Claims were to be classified (check-worthy/not check-worthy) and ranked in priority ord... [▽ More](#)

Submitted 12 July, 2021; **originally announced** July 2021.

Comments: To Appear As: Evan Williams, Paul Rodrigues, Sieu Tran. Accenture at CheckThat! 2021: Interesting claim identification and ranking with contextually sensitive lexical training data augmentation. In: Faggioli et al. Working Notes of CLEF 2021-Conference and Labs of the Evaluation Forum. Bucharest, [Romania](#). 21-24 September 2021

20. [arXiv:2106.11640](#) [[pdf](#), [other](#)] [econ.EM](#) [stat.ML](#)

Heterogeneous Treatment Effects in Regression Discontinuity Designs

Authors: [Ágoston Reguly](#)

Abstract: ...and apply it to the data set compiled by Pop-Eleches and Urquiola (2013) to uncover various sources of heterogeneity in the impact of attending a better secondary school in **Romania**. ▾ [More](#)

Submitted 19 October, 2021; v1 submitted 22 June, 2021; originally announced June 2021.

Comments: 39 pages, 8 tables, 8 figures

21. [arXiv:2106.00411](#) [[pdf](#), [other](#)] [cs.DL](#) [cs.IR](#)

WebMlaS on Docker: Deploying Math-Aware Search in a Single Line of Code

Authors: [Dávid Lupták](#), [Vít Novotný](#), [Michal Štefánik](#), [Petr Sojka](#)

Abstract: Math informational retrieval (MIR) search engines are absent in the wide-spread production use, even though documents in the STEM fields contain many mathematical formulae, which are sometimes more important than text for understanding. We have developed and open-sourced the WebMlaS MIR search engine that has been successfully deployed in the European Digital Mathematics Library (EuDML). However,... ▾ [More](#)

Submitted 14 July, 2021; v1 submitted 1 June, 2021; originally announced June 2021.

Comments: Accepted to be published in: Intelligent Computer Mathematics 14th International Conference, CICM 2021, Timisoara, **Romania**, July 26--31, 2021, Proceedings, Fairouz Kamareddine and Claudio Sacerdotti-Coen (eds.), Lecture Notes in Artificial Intelligence, Springer, Cham, 2021

MSC Class: 68V35 (Primary); 68V30 (Secondary) ACM Class: H.3.3; H.3.4; H.3.5; H.3.6; H.3.7

22. [arXiv:2105.13754](#) [[pdf](#), [other](#)] [cs.CV](#) [cs.AI](#)

Embedded Vision for Self-Driving on Forest Roads

Authors: [Sorin Grigorescu](#), [Mihai Zaha](#), [Bogdan Trasnea](#), [Cosmin Ginerica](#)

Abstract: Forest roads in **Romania** are unique natural wildlife sites used for recreation by countless tourists. In order to protect and maintain these roads, we propose RovisLab AMTU (Autonomous Mobile Test Unit), which is a robotic system designed to autonomously navigate off-road terrain and inspect if any deforestation or damage occurred along tracked route. AMTU ... ▾ [More](#)

Submitted 27 May, 2021; originally announced May 2021.

23. [arXiv:2105.12530](#) [[pdf](#), [ps](#), [other](#)] [cs.CL](#)

Deception detection in text and its relation to the cultural dimension of individualism/collectivism

Authors: [Katerina Papantoniou](#), [Panagiotis Papadakos](#), [Theodore Patkos](#), [Giorgos Flouris](#), [Ion Androutsopoulos](#), [Dimitris Plexousakis](#)

Abstract: ...We conducted our experiments over 11 datasets from 5 languages i.e., English, Dutch, Russian, Spanish and Romanian, from six countries (US, Belgium, India, Russia, Mexico and **Romania**), and we applied two classification methods i.e, logistic regression and fine-tuned BERT models. The results showed that our task is fairly complex and demanding. There are ind... ▾ [More](#)

Submitted 26 May, 2021; originally announced May 2021.

Comments: Accepted for publication in Natural Language Engineering journal

24. [arXiv:2105.05494](#) [[pdf](#), [other](#)] [physics.optics](#) [physics.ins-det](#)

Ultra-intense laser pulses and the High Power Laser System at Extreme Light Infrastructure -- Nuclear Physics

Authors: [Daniel Ursescu](#)

Abstract: ...first finalized 10PW high power laser system (HPLS) will be highlighted. This dual arm, 10PW each, laser system, at Extreme Light Infrastructure Nuclear Physics (ELI-NP), in **Romania**, delivers beams in five experimental areas that address research centered on nuclear physics, materials in extreme environments and exotic physics. ▾ [More](#)

Submitted 12 May, 2021; originally announced May 2021.

Comments: 19 pages, 10 figures, draft of lecture notes for the FemtoUp! School, Strasbourg, France, March 2021

25. [arXiv:2103.08037](#) [[pdf](#), [ps](#), [other](#)] [hep-th](#) [gr-qc](#) [math-ph](#)

Quantum gravity and elementary particles from higher gauge theory

Authors: [Tijana Radenkovic](#), [Marko Vojinovic](#)

Abstract: We give a brief overview how to couple general relativity to the Standard Model of elementary particles, within the higher gauge theory framework, suitable for the spinfoam quantization procedure. We begin by providing a short review of all relevant mathematical concepts, most notably the idea of a categorical ladder, 3-groups and generalized parallel transport. Then, we give an explicit construct... ▾ [More](#)

Submitted 14 March, 2021; originally announced March 2021.

Comments: Proceedings of the Workshop on Quantum Fields and Nonlinear Phenomena, Craiova, **Romania**, 2020. 14 pages

26. [arXiv:2012.01305](#) [pdf, other] cs.CL

Analyzing Stylistic Variation across Different Political Regimes

Authors: [Liviu P. Dinu](#), [Ana-Sabina Uban](#)

Abstract: ...we propose a stylistic analysis of texts written across two different periods, which differ not only temporally, but politically and culturally: communism and democracy in **Romania**. We aim to analyze the stylistic variation between texts written during these two periods, and determine at what levels the variation is more apparent (if any): at the stylistic le...

▽ [More](#)

Submitted 2 December, 2020; **originally announced** December 2020.

Journal ref: 19th International Conference on Computational Linguistics and Intelligent Text Processing (CICLing 2018)

27. [arXiv:2011.00098](#) [pdf] eess.SY doi [10.1109/ISGTEurope.2019.8905549](#)

Generator Controller Tuning Considering Stochastic Load Variation Using Analysis of Variance and Response Surface Method

Authors: [Frank A. Ibarra](#), [Daniel Turizo](#), [César Orozco-Henao](#), [Javier Guerrero](#)

Abstract: This article proposes a method for generator controller tuning in a power system affected by stochastic loads. The method uses the Analysis of Variance to detect the controllers with significant effect over the quality of the system response. Such quality is measured with an objective function defined as a weighted average of the Integral Absolute Error of each controller. The significant variable... ▽ [More](#)

Submitted 30 October, 2020; **originally announced** November 2020.

Comments: 5 pages, 6 figures, 2019 ISGT-Europe, Bucharest, **Romania**, 2019

28. [arXiv:2007.13494](#) [pdf, other] q-bio.PE physics.soc-ph stat.ML

A regime switching on Covid19 analysis and prediction in **Romania**

Authors: [Marian Petrica](#), [Radu D. Stochitoiu](#), [Marius Leordeanu](#), [Ionel Popescu](#)

Abstract: In this paper we propose a three stages analysis of the evolution of Covid19 in **Romania**. There are two main issues when it comes to pandemic prediction. The first one is the fact that the numbers reported of infected and recovered are unreliable, however the number of deaths is more accurate. The second issue is that there were many factors which affected... ▽ [More](#)

Submitted 30 August, 2022; v1 submitted 27 July, 2020; **originally announced** July 2020.

29. [arXiv:2007.11407](#) [pdf] econ.GN

Examining the drivers of business cycle divergence between Euro Area and **Romania**

Authors: [Ionut Jianu](#)

Abstract: This research aims to provide an explanatory analyses of the business cycles divergence between Euro Area and **Romania**, respectively its drivers, since the synchronisation of output-gaps is one of the most important topic in the context of a potential EMU accession. According to the estimates, output-gaps synchronisation entered on a downward path in the subp... ▽ [More](#)

Submitted 20 July, 2020; **originally announced** July 2020.

Comments: 14 pages

Journal ref: Theoretical and Applied Economics, Vol. 27 (2020), No. 2

30. [arXiv:2006.12926](#) [pdf, other] q-bio.PE cs.LG

A self-supervised neural-analytic method to predict the evolution of COVID-19 in **Romania**

Authors: [Radu D. Stochițoiu](#), [Marian Petrica](#), [Traian Rebedea](#), [Ionel Popescu](#), [Marius Leordeanu](#)

Abstract: ...of SEIR, which is the classic, established model for infectious diseases. We want to infer all the parameters of the model, which govern the evolution of the pandemic in **Romania**, based on the only reliable, true measurement, which is the number of deaths. Once the model parameters are estimated, we are able to predict all the other relevant measures, such as... ▽ [More](#)

Submitted 5 September, 2020; v1 submitted 23 June, 2020; **originally announced** June 2020.

Comments: update author list

31. [arXiv:2006.07705](#) [pdf, ps, other] math.CO

Rank partition functions and truncated theta identities

Authors: [Mircea Merca](#)

Abstract: In 1944, Freeman Dyson defined the concept of rank of an integer partition and introduced without definition the term of crank of an integer partition. A definition for the crank satisfying the properties hypothesized for it by Dyson was

discovered in 1988 by G. E. Andrews and F. G. Garvan. In this paper, we introduce truncated forms for two theta identities involving the generating functions fo... [▼ More](#)

Submitted 13 June, 2020; originally announced June 2020.

Comments: Some of the results obtained in this article were presented at Transient Transcendence In Transylvania, Brasov, **Romania**, May 13-17, 2019. <https://specfun.inria.fr/bostan/trans19/slides/Merca.pdf>

MSC Class: 05A17; 11P81; 11P83

32. [arXiv:2006.07704](#) [[pdf](#), [ps](#), [other](#)] [math.CO](#)

Truncated theta series and partitions into distinct parts

Authors: [Mircea Merca](#)

Abstract: Linear inequalities involving Euler's partition function $p(n)$ have been the subject of recent studies. In this article, we consider the partition function $Q(n)$ counting the partitions of n into distinct parts. Using truncated theta series, we provide four infinite families of linear inequalities for $Q(n)$ and partition theoretic interpretations for these results.

Submitted 13 June, 2020; originally announced June 2020.

Comments: Some of the results obtained in this article were presented at Transient Transcendence In Transylvania, Brasov, **Romania**, May 13-17, 2019. <https://specfun.inria.fr/bostan/trans19/slides/Merca.pdf>

MSC Class: 05A17; 11P81; 11P83

33. [arXiv:2005.11106](#) [[pdf](#), [other](#)] [eess.SP](#) [cs.NE](#)

On the suitability of generalized regression neural networks for GNSS position time series prediction for geodetic applications in geodesy and geophysics

Authors: [M. Kiani](#)

Abstract: ...the time series. In order to analyze the performance of the neural network in various conditions, 14 permanent stations are used in different countries, namely, Spain, France, **Romania**, Poland, Russian Federation, United Kingdom, Czech Republic, Sweden, Ukraine, Italy, Finland, Slovak Republic, Cyprus, and Greece. The performance analysis is divided into two... [▼ More](#)

Submitted 22 May, 2020; originally announced May 2020.

34. [arXiv:2005.04029](#) [[pdf](#)] [q-bio.QM](#) [q-bio.PE](#) [doi](#) [10.1016/j.scs.2020.102418](#)

The overall mortality caused by COVID-19 in the European region is highly associated with demographic composition: A spatial regression-based approach

Authors: [Srikanta Sannigrahi](#), [Francesco Pilla](#), [Bidroha Basu](#), [Arunima Sarkar Basu](#)

Abstract: ...COVID-19, was found highest in Italy and the UK. The moderate local R^2 was observed for France, Belgium, Netherlands, Ireland, Denmark, Norway, Sweden, Poland, Slovakia, and **Romania**. The lowest local R^2 value for COVID-19 cases was accounted for Latvia and Lithuania. Among the 13 variables, the highest local R^2 was calculated for total population ($R^2 = 0.92$)... [▼ More](#)

Submitted 7 May, 2020; originally announced May 2020.

Comments: 45

Journal ref: Sustainable Cities and Society, 2020

35. [arXiv:2005.02618](#) [[pdf](#), [other](#)] [cs.NE](#) [cs.AI](#) [doi](#) [10.1109/ICTAI.2018.00080](#)

Vehicle Routing and Scheduling for Regular Mobile Healthcare Services

Authors: [Cosmin Pascaru](#), [Paul Diac](#)

Abstract: ...initially for a real-life application that is the starting point of an ongoing project. Particularly, the goal is to mitigate health problems in rural areas around a city in **Romania**. Medically equipped vans are programmed to start daily routes from county capital, provide a given number of examinations in townships within the county and return to the capital... [▼ More](#)

Submitted 6 May, 2020; originally announced May 2020.

Comments: International Conference on Tools with Artificial Intelligence (ICTAI) 8 pages 1 figure

36. [arXiv:2004.13008](#) [[pdf](#)] [q-fin.GN](#)

Econophysics Approach and Model on Mixed Economy

Authors: [Ion Spanulescu](#), [Anca Gheorghiu](#)

Abstract: In this paper the general principles and categories of mixed economy that currently exist in almost all countries of the world are presented. The paper also presents an Advanced Model of Mixed Economy with Threshold (AMMET), which is characterized by a reduced value (approx. 10-15%) of the State and public sector participation in the national economy and proposes and analyzes an econophysics model... [▼ More](#)

Submitted 25 April, 2020; originally announced April 2020.

Comments: 15 pages, 4 figures, ENEC 2019, Bucharest, **Romania**, 2019

37. [arXiv:2004.11549](#) [pdf] physics.app-ph doi [10.1109/SMICND.2018.8539756](#)

Processing issues in SiC and GaN power devices technology: the cases of 4H-SiC planar MOSFET and recessed hybrid GaN MISHEMT

Authors: [Fabrizio Roccaforte](#), [Giuseppe Greco](#), [Patrick Fiorenza](#)

Abstract: This paper aims to give a short overview on some relevant processing issues existing in SiC and GaN power devices technology. The main focus is put on the importance of the channel mobility in transistors, which is one of the keys to reduce RON and power dissipation. Specifically, in the case of the 4H-SiC planar MOSFETs the most common solutions and recent trends to improve the channel mobility a... [▼ More](#)

Submitted 24 April, 2020; originally announced April 2020.

Journal ref: IEEE Proc. of the 41st International Semiconductor Conference (CAS2018), Sinaia ([Romania](#)), October 10-12, 2018, pp. 7-16

38. [arXiv:2001.00557](#) [pdf, other] nucl-ex

Experimental study of the 2n-transfer reaction $^{138}\text{Ba}(^{18}\text{O}, ^{16}\text{O})^{140}\text{Ba}$ in the projectile energy range 61-67 MeV

Authors: [A. Khaliel](#), [T. J. Mertzimekis](#), [F. C. L. Crespi](#), [G. Zagoraios](#), [D. Papaioannou](#), [N. Florea](#), [A. Turturica](#), [L. Stan](#), [N. Marginean](#)

Abstract: ...state. The experiment was carried out at the Horia Hulubei National Institute for Physics and Nuclear Engineering (IFIN-HH) in Magurele, [Romania](#). Lower limits on the lifetimes of ground state band up to the 8^+ state are reported. Furthermore, relative cross sections regarding the 2n-transfer reaction with respect to the fusion and the total inelastic rea... [▼ More](#)

Submitted 2 January, 2020; originally announced January 2020.

Comments: Accepted for publication in Europhysics Letters (EPL)

39. [arXiv:1911.06782](#) [pdf, other] nucl-ex nucl-th

Lifetimes and moments measurements to investigate the structure of midheavy nuclei

Authors: [T. J. Mertzimekis](#), [A. Khaliel](#), [D. Papaioannou](#), [G. Zagoraios](#), [A. Zyriliou](#)

Abstract: ...-spectroscopy studies employing the RoSPHERE array in Magurele, [Romania](#). In recent studies [1,2], the neutron-rich $^{144-146}\text{Ba}$ isotopes have exhibited octupole degrees of freedom. Similar questions exist for the lighter ^{140}Ba isotope, which is located at the onset of octupole collectivity. In addition, understanding the structure of heavier, even-even... [▼ More](#)

Submitted 15 November, 2019; originally announced November 2019.

Comments: 7 pages, 4 figures, peer-reviewed paper accepted for publication in Bulg. J. Phys. after it was presented at International Workshop "Shapes and Dynamics of Atomic Nuclei: Contemporary Aspects" (SDANCA-19), 3-5 October 2019, Sofia, Bulgaria

40. [arXiv:1911.02449](#) [pdf, other] q-fin.GN physics.soc-ph q-fin.ST doi [10.1016/j.physa.2020.124491](#)

Scaling in Income Inequalities and its Dynamical Origin

Authors: [Zoltan Neda](#), [Istvan Gere](#), [Tamas S. Biro](#), [Geza Toth](#), [Noemi Derzsy](#)

Abstract: ...The model assumptions on the growth and reset rates are tested on an exhaustive database with incomes on individual level spanning a nine year period in the Cluj county ([Romania](#)). In agreement with our theoretical predictions we find that income distributions computed for several years collapse on a master-curve when a properly normalised income is consider... [▼ More](#)

Submitted 29 March, 2020; v1 submitted 6 November, 2019; originally announced November 2019.

Comments: 10 pages, 6 Figures

41. [arXiv:1910.09808](#) [pdf, other] cs.LG eess.SP

A Scalable Predictive Maintenance Model for Detecting Wind Turbine Component Failures Based on SCADA Data

Authors: [Lorenzo Giloni](#), [Alessandro Betti](#), [Mauro Tucci](#), [Emanuele Crisostomi](#)

Abstract: ...two stages: a first two years long offline test, and a second one year long real-time test. The offline test used historical faults from six wind farms located in Italy and [Romania](#), corresponding to a total of 150 wind turbines and an overall installed nominal power of 283 MW. The results demonstrate outstanding capabilities of anomaly prediction up to 2 mon... [▼ More](#)

Submitted 22 October, 2019; originally announced October 2019.

Comments: Paper presented at the conference IEEE PES General Meeting 2019, August 4-8 (Atlanta, USA)

MSC Class: I.2.6

42. [arXiv:1910.08399](#) [pdf] cs.CR

Support for public-key infrastructures in DNS

Authors: [Marius Marian](#), [Diana Berbecaru](#)

Abstract: Traditionally, publicly available repositories of certificates offer the usual response to the problem of public key distribution. After issuing a public-key certificate a certification authority (CA) - in the frame of a particular public-key infrastructure (PKI) - will store and publish that certificate in a repository so that, at a later moment, end-users can search, find and retrieve public-key... [▼ More](#)

Submitted 18 October, 2019; **originally announced** October 2019.

Comments: In Proceedings of the International Symposium on systems theory, automation, robotics, computers, informatics, electronics and instrumentation (SINTES 11), XIth edition, Vol. II (Software engineering, Computer engineering and Electronics), 23-24 October, 2003, Craiova ([Romania](#)), pp. 451-456, ISBN 973-8043-415-5 / 973-8043-416-6

Journal ref: and Electronics), 23-24 October, 2003, Craiova ([Romania](#)), pp. 451-456, ISBN 973-8043-415-5 / 973-8043-416-6

43. [arXiv:1910.03276](#) [pdf, other] cs.LG stat.ML doi [10.1109/ISGTEurope.2019.8905453](#)

A Machine Learning Model for Long-Term Power Generation Forecasting at Bidding Zone Level

Authors: [Michela Moschella](#), [Mauro Tucci](#), [Emanuele Crisostomi](#), [Alessandro Betti](#)

Abstract: The increasing penetration level of energy generation from renewable sources is demanding for more accurate and reliable forecasting tools to support classic power grid operations (e.g., unit commitment, electricity market clearing or maintenance planning). For this purpose, many physical models have been employed, and more recently many statistical or machine learning algorithms, and data-driven... [▼ More](#)

Submitted 16 July, 2020; **v1 submitted** 8 October, 2019; **originally announced** October 2019.

Comments: Paper presented at IEEE PES ISGT 2019 Conference (29 Sept - 2 Oct, Bucharest, [Romania](#))

Journal ref: 2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe)

44. [arXiv:1909.08390](#) [pdf, ps, other] physics.comp-ph physics.flu-dyn doi [10.1063/5.0001069](#)

Implicit-Explicit Finite-Difference Lattice Boltzmann Model with Varying Adiabatic Index

Authors: [Stefan T. Kis](#), [Victor E. Ambrus](#)

Abstract: The perfect fluid limit can be obtained from the Boltzmann equation in the limit of vanishing Knudsen number. By treating the collision term in an implicit manner, the implicit-explicit (IMEX) time stepping scheme allows this limit to be achieved at finite values of the time step. We consider the 9th order monotonicity-preserving (MP-9) scheme to implement the advection, which is treated explicitl... [▼ More](#)

Submitted 13 September, 2019; **originally announced** September 2019.

Comments: 7 pages, submitted to the Proceedings of the TIM-19 conference, 29-31 May 2019, Timisoara, [Romania](#)

45. [arXiv:1909.07438](#) [pdf] cs.CY cs.CR doi [10.1109/ICSTCC.2013.6689029](#)

On the design of an innovative solution for increasing hazardous materials transportation safety

Authors: [Emil Pricop](#)

Abstract: Transportation of hazardous materials represent a high risk operation all over the world. Flammable substances such as oil, kerosene, hydrocarbons, ammonium nitrate or toxic products are shipped every day on busy roads by trucks. An innovative solution for increasing hazardous materials transportation safety is presented in this paper. The solution integrates three systems: one mounted on the truc... [▼ More](#)

Submitted 10 September, 2019; **originally announced** September 2019.

Comments: Paper presented at the 17th International Conference on System Theory, Control and Computing (ICSTCC 2013), Sinaia, [Romania](#) - 11-13 October 2013

Journal ref: Proceedings of the 7th International Conference on System Theory, Control and Computing (ICSTCC 2013)

46. [arXiv:1909.02960](#) [pdf] cs.OH doi [10.1109/ICSTCC.2019.8886147](#)

Real-time stock analysis for blending recipes in industrial plants

Authors: [Florin Zamfir](#), [Nicolae Paraschiv](#), [Emil Pricop](#)

Abstract: Many companies use Excel spreadsheets to keep stock records and to calculate process-specific data. These spreadsheets are often hard to understand and track. And if the user does not protect them, there is a risk that the user randomly changes or erase formulas. The paper focuses on the stocks of products used in a blending process with a known recipe. Developing an application that can bring thi... [▼ More](#)

Submitted 29 August, 2019; **originally announced** September 2019.

Comments: Accepted for presentation at 23rd International Conference on System Theory, Control and Computing (ICSTCC 2019), October 9-11, 2019, Sinaia, [Romania](#)

47. [arXiv:1909.02815](#) [pdf] cs.NI cs.CR doi [10.1109/ECAI.2018.8679017](#)

IoT Forensic -- A digital investigation framework for IoT systems

Authors: [Snehal Sathwara](#), [Nitul Dutta](#), [Emil Pricop](#)

Abstract: Security issues, threats, and attacks in relation with the IoT have been identified as promising and challenging area of research. Eventually, the need for a forensics methodology for investigating IoT-related crime is therefore essential. However, the IoT poses many challenges for forensics investigators. These include the wide range and variety of information, the unclear lines of differentiatio... [▼ More](#)

Submitted 6 September, 2019; **originally announced** September 2019.

Comments: Paper presented at 10th International Conference on Electronics, Computers and Artificial Intelligence, , ECAI 2018 - 28-30 June 2018 - Iasi, [Romania](#)

Journal ref: 018 10th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), Iasi, [Romania](#), 2018, pp. 1-4

48. [arXiv:1909.02447](#) [[pdf](#)] [eess.SP](#) [doi](#) [10.1109/ICSTCC.2019.8886145](#)

Towards a reliable approach on scaling in data acquisition

Authors: [Nicolae Paraschiv](#), [Emil Pricop](#), [Jaouhar Fattahi](#), [Florin Zamfir](#)

Abstract: Data acquisition is an important process in the functioning of any control system. Usually, the acquired signal is analogic, representing a continuous physical measure, and it should be processed in a digital system based on an analog to digital converter (ADC) and a microcontroller. The ADC provides the converted value in ADC units, but the system and its operator need the value expressed in phys... [▼ More](#)

Submitted 29 August, 2019; **originally announced** September 2019.

Comments: Paper accepted for ICSTCC 2019 - 23rd International Conference on System Theory, Control and Computing, October 9-11, 2019, Sinaia, [Romania](#)

49. [arXiv:1909.00584](#) [cs.LO](#) [cs.SC](#) [doi](#) [10.4204/EPTCS.303](#)

Proceedings Third Symposium on Working Formal Methods

Authors: [Mircea Marin](#), [Adrian Crăciun](#)

Abstract: This volume contains the proceedings of FROM 2019: the Third Symposium on Working Formal Methods, held on September 3-5, 2019 in Timișoara ([Romania](#)). FROM aims to bring together researchers and practitioners who work on formal methods by contributing new theoretical results, methods, techniques, and frameworks, and/or make the formal methods to work by cre... [▼ More](#)

Submitted 2 September, 2019; **originally announced** September 2019.

Journal ref: EPTCS 303, 2019

50. [arXiv:1906.12167](#) [[pdf](#), [other](#)] [cs.CV](#) [doi](#) [10.20944/preprints201906.0248.v1](#)

Gray Level Image Threshold Using Neutrosophic Shannon Entropy

Authors: [Vasile Patrascu](#)

Abstract: This article presents a new method of segmenting grayscale images by minimizing Shannon's neutrosophic entropy. For the proposed segmentation method, the neutrosophic information components, i.e., the degree of truth, the degree of neutrality and the degree of falsity are defined taking into account the belonging to the segmented regions and at the same time to the separation threshold area. The p... [▼ More](#)

Submitted 26 June, 2019; **originally announced** June 2019.

Comments: The 3rd Conference on Recent Advances in Artificial Intelligence, RAAI 2019, Bucharest, [Romania](#), June 28-30, 2019

Report number: Preprints 2019, 2019060248 **MSC Class:** 68U10; 62H35